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| **Subject / Course:** Mathematics | **TC Name:** Brian Legros | |
| **Grade Level:** 7 | **Date:** October 9, 2010 | |
| **Topic:** Calculating the Area of Complex Shapes | **Time of Class:** 60 min | |
| **AT Name:** Brian Legros | **Room # / Location:** Room 203 | |
| **1. Curriculum Expectation(s) and Goal(s) for the Lesson** | |  |
| 1. **Expectations**  |  | | --- | | **Measurement**  Estimate and calculate the area of composite two-dimensional shapes by decomposing into shapes with known area relationships | | | |
| 1. **Goal(s) for the lesson:**  |  | | --- | | By the end of this lesson, students will be able to:   1. Use models to visualize and display irregular two-dimensional shapes 2. Use the models to decompose irregular two-dimensional shapes into simpler shapes (polygons) 3. Calculate the area of an irregular two-dimensional shape by dividing it into simpler shapes | | | |
| **2. Preassessment and Accommodations/Modifications** | | |
| |  |  | | --- | --- | | **Preassessment: (***State the issue)* | **Accommodation/Modification:** *(how will you adapt your lesson?)* | | **Academic Needs:** *(what will you do with the students who finish early or who cannot finish or understand the lesson***?)**  **Behavioural/Social/Emotional Needs:** *(Do you have students who are easily distracted, have short attention span, don’t participate or talk out constantly?)*  **Physical Needs:** *(do you have students with allergies, difficulty seeing or hearing, or with mobility issues?)*  **Diversity Needs:** *(do you have any ESL students? Are there cultural or language issues?)* | The activity builds on the previous lesson of - area of polygons.   * If the class has difficulty with area of irregular 2-D shapes change the lesson to a review of a area of polygons * Students who finish quickly will be asked to assist another group * Students who finish early will be assigned another shape   Fewer questions will be assigned to students grasping the content at a slower pace   * Teacher will separate the class into triads, so it encourages group work * If student is misbehaving, they will be asked to leave the group and work individually   No physical needs required for the lesson.  There are no diversity issues in this lesson | | | |

1. **Learning Environment**

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| The data projector will be placed on the table in the front of the classroom.  Students will be required to be seated at their own desks at the start of the lesson, pencils and math workbooks only on their desk.  After Minds on story, teacher will shut off projector so the review of area of polygons can be done on the white board.  Extra rulers and pencils will be available in the classroom supply area.  Teacher will move about with students ensuring they form their triad groups quickly and quietly.  During group activities teacher will circulate about the triad groups ensuring students are on task and assisting with any questions.  All handouts and required answer sheets will be assembled and placed on teachers desk for distribution |

1. **The Overview (Agenda) for your lesson:**

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| 1. Minds On - Story 2. Review topic: Area of Polygons 3. Problem: How do I cover my horse? 4. Group work 5. Consolidation - group discussion 6. Home activity 7. Ticket out the door |

1. **Resources and Materials for your class**

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| 1. 8 rulers 2. 25 copies of horse, and of boat handout 3. 8 envelopes with different polygon shapes 4. 25 Home activity worksheets 5. 25 Ticket out the door slips 6. Over head projector 7. Copy of horse poem |

1. **Content, Teaching Strategies, for Lesson**

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| ***Time*** | ***Teaching or***  ***Assessment Strategy*** | ***Detailed Description*** |
| *49 min.* | *Introduction*  *Different types of shapes*  *Review*  *Calculate area of polygon shapes*  *Think-pair-share*  *Cooperative learning*  *Assessment* | 1. **(before class) Preparation**  * Before the start of the lesson, the teacher will connect the overhead projector is set up and ensure it is working  1. **Transition (1 minute)**  * The teacher will get the attention of the class (5-4-3-2-1 all eyes on me) * The teacher will have the students clear their desk of all extra material and only have their math objects available  1. **Minds on (10 minutes)**  * The teacher will read a poem about a favourite horse and show a picture on the overhead. The teacher will explain that the horse must be covered, but only with the exact amount of blanket. * The teacher will ask the question; how will the horse be covered as not to waste any material?  1. **Group discussion (10 minutes)**  * The teacher will review the area of polygon shape * Will ask class for area of triangle   A = b x h ÷ 2   * Will ask class area of rectangle   A = l x w   * Will as class area of parallelogram   A = b x h     1. **Transition (3 minutes)**  * Teach will get class attention * Teacher will separate class into triads by having students count off, 1 through 8. * Have the students move to their groups of three (when I say go please move to your are with your group) * Each number will then form a triad at one of the persons desk area * Teacher will assist any group not being able to decide a location * The teacher will pass a picture of the horse to each group * The group member with the brightest shirt will obtain a ruler for the group, from the supply basket – if required  1. **Group discussion (2 minutes)**  * Teacher will get the class attention (3-2-1 all eyes on me) * The teacher will ask how do we calculate the area of the horse? * Have the students discuss ideas on how area will be calculated in their group.  1. **Group Work (20 Minutes)**  * The teacher hand out a envelope to each group that contains several polygon shapes * Students will be asked to see if they can use the shapes to represent horse in several known polygon shapes * Teacher will move about classroom observing student activity * After decomposing the irregular shape into simpler shapes, have the students calculate are of simpler (polygon) shapes using rulers (rounding off to nearest one decimal point centimetre) * Have students calculate area of irregular shape  1. **Transition (3 minutes)**  * Have students clean up polygon shapes, place in envelope * Tallest person in group returns envelope to teachers desk * Shortest person in group returns rulers * Students return to their own desk |
| *5 min.* | *Consolidation* | 1. **Group discussion (5 minutes)**  * Discuss with students how do we decompose irregular shapes * Ask how could this problem be used in real world (i.e., carpentry, clothing manufacturing, cake making, oil spills) |
| *3 min.* | *Homework* | 1. **Home activity (3 minutes)**  * Have a worksheet with an irregular shape, as them to complete for homework |
| *2 min.* | *Ticket out the door* | 1. **Ticket out the door (2 min.)**  * Happy Face Chart. Have student circle a sad, neutral or happy face if they understood key concepts covered in the class (on a sheet of paper you hand out). This is handed back into the teacher. |

***Home Activity***

What is the area of the irregular shape below?

  

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Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

  

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_